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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,959	06/15/2006	Hiitoshi Takamatsu	740165-428	1480

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ROBERT'S MLOTKOWSKI SAFRAN & COLE, P.C.  
Intellectual Property Department  
P.O. Box 10064  
MCLEAN, VA 22102-8064

EXAMINER

KRUEER, STEFAN

ART UNIT	PAPER NUMBER
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3654

NOTIFICATION DATE	DELIVERY MODE
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06/01/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary****Application No.**

10/582,959

**Applicant(s)**

TAKAMATSU ET AL.

**Examiner**

Stefan Krueer

**Art Unit**

3654

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Abstract***

The amendment of the Abstract is accepted.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1 – 2 and 5**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabinski et al (4,979,694) in view of Butenop et al (4,618,108) and in further view of Nagata et al (6,354,528).

**Re: Claims 1 – 2 and 5**, Grabinski et al disclose a webbing retractor comprising:

- a retracting shaft (11) for retracting a webbing belt for restraining an occupant;
- a lock mechanism (14 – 16) which includes an annular lock gear (14) concentrically provided with respect to an axis of rotation of said retracting shaft with ratchet teeth (15) being formed at an outer peripheral face of the lock gear and a lock plate (16) disposed to be able to be engaged with the ratchet teeth of the lock gear, and which is structured to be able to prevent rotation of the retracting shaft in a webbing pulling-out direction by the lock plate being engaged with the lock gear (Col. 4, L. 9 – 28);
- a pretensioner mechanism (10, 12) coupled to an end portion of the shaft, and which is structured to be able to forcibly rotate the retracting shaft in a webbing retracting direction; however,

Grabinski et al are silent with respect to a torsion bar and their pretensioner mechanism includes a sleeve.

Attention is directed to Butenop et al who teach their pretensioner (15, Fig. 1) having a sleeve (22) provided integrally at an axial center portion of their lock gear (24), wherein their lock gear has an annular outer periphery (Fig. 2) on which ratchet teeth (26) are formed, for their inventive feature of eliminating a "... loss of self-locking action once a (pre) tensioning ... is triggered" (sic) (Abstract).

It would have been obvious to one of ordinary skill in the art to modify the reference of Grabinski et al with the teaching of Butenop et al to provide an integral arrangement of a pretensioner mechanism and lock gear for compactness and enabling subsequent locking of a seat belt retractor (e.g., normal operation) following a pretensioning of the seat belt for compactness and greater applicability.

However, Butenop et al are silent with respect to a torsion bar and their sleeve having a knurled inner periphery.

Attention is directed to Nagata et al who teach their force limiter mechanism which includes a torsion bar (92, Fig. 11) having one end portion coupled to their retracting shaft (70), and which is structured to be able to absorb a rotating force of the retracting shaft in the webbing pulling-out direction when the rotation of the retracting shaft in the webbing pulling-out direction is prevented by their lock mechanism (82, 96, Fig. 21), and their torsion bar having a sleeve (78A, Fig. 11) of their pretensioner mechanism (14, 104) that is provided integrally at an axial center portion of their force limiter mechanism, for feature of a "...small pretensioner and lock device of reduced number of parts (sic)...", wherein their sleeve is formed in a cylindrical shape coaxial with their pretensioner and lock gear (82), and an inner peripheral face of the sleeve is knurled (to accommodate 92B) (Col. 19, L. 55 – 60 and Col. 30, L. 58 – 67).

It would have been obvious to one of ordinary skill in the art to modify the invention of Grabinski et al and Butenop et al with the teaching of Nagata et al for proper transfer of force and for savings in space and costs.

**Claims 3 – 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabinski et al in view of Butenop et al and Nagata et al and in further view of Lee et al (6,513,747).

**Re: Claims 3,** Grabinski et al disclose a retracting shaft and pretensioner- and locking mechanisms; however, Grabinski et al are silent with respect to a torsion bar and their pretensioner mechanism having a sleeve as well as their pretensioner mechanism having a rack.

Butenop et al teach their pretensioner mechanism having a sleeve integral in their lock gear for feature of compactness and enabling subsequent locking of their spool following a pretensioning.

It would have been obvious to one of ordinary skill in the art to modify the reference of Grabinski et al with the teaching of Butenop et al for compactness and greater applicability.

However, Butenop et al are silent with respect to their pretensioner having a rack, their force limiter includes a torsion bar and their sleeve having an inner periphery comprising a knurled surface.

Nagata et al teach their pretensioner mechanism having rack (130, Fig. 14) which is provided on their piston (146, 132) that moves within their cylinder (136) by receiving gas pressure, as well as a pinion (104) which is disposed coaxially with their retracting shaft, a force limiter including a torsion bar and an inner peripheral face of their sleeve is knurled, in total comprising a pretensioning device as known in the art.

It would have been obvious to one of ordinary skill in the art to modify the invention of Grabinski et al and Butenop et al with the teaching of Nagata et al for utility.

However, Nagata et al are silent with respect to a clutch plate.

Attention is directed to Lee et al who teach their pretensioner mechanism comprising a piston (164) which moves within their cylinder (163) by receiving gas pressure and a clutch plate (side of 214, Fig. 4B) which transmits a rotating force of their pinion (210) to their sleeve (122, Fig. 3), for feature of isolating their pretensioner mechanism from their shaft when their shaft is in a webbing pulling-out direction.

It would have been obvious to one of ordinary skill in the art to modify the invention of Grabinski et al, Butenop et al and Nagata et al with the teaching of Lee et al for isolating emergency drive components to minimize hindrances and wear during non-emergency operation.

**Re: Claim 4**, Grabinski et al, Butenop et al and Nagata et al are silent with respect to a clutch plate.

Attention is directed to Lee et al who teach their clutch plate (side of 214, Fig. 4B) further comprising a cam (angled portions of 214) for feature of isolating their pretensioner mechanism from their shaft when their shaft is in a webbing pulling-out direction while affording force transmission in a webbing pulling-in direction.

It would have been obvious to one of ordinary skill in the art to modify the invention of Grabinski et al, Butenop et al and Nagata et al with the teaching of Lee et al for isolating emergency drive components to minimize hindrances and wear during non-emergency operation.

### ***Response to Arguments***

Applicant's arguments filed 3 March 2009 with respect to **Claims 1, 3 and 5** have been fully considered but they are not persuasive.

The rejections of the previous office action were in response to the claim language.

Applicant's arguments are primarily based on the commonly amended claim language applied to the prior art of record.

With respect to applicant's arguments that locking element 14 of Grabinski et al is neither annular in form nor a gear, but rather is non-annular and a plate, respectively, whereby said element is mounted for radial translation with respect to a retracting shaft, the term "annular", as understood, is something that is in a form of, or pertains to, a ring, whereby the locking element of Grabinski et al can certainly be interpreted as having an annular form. Additionally, in that said locking element comprises teeth (15) along its outer periphery and said teeth engage a set of concentrically arranged teeth formed on a lock plate (16) upon the engagement of a pretensioner mechanism that is concentrically (co-axially) mounted with the locking element, said element can be interpreted, due to its form and teething, to be a locking gear. That the locking gear of

Grabinski et al undergoes a radial movement upon activation of the pretensioner mechanism wherein the *ratchet* teeth (15) of said gear engages *ratchet* teeth of the lock plate (16), does not contradict the claim language.

As to Grabinski et al being “*completely silent* with respect to *any* sleeve”, as emphasized by applicant, though Grabinski et al do not disclose a sleeve, a sleeve intermediate the retracting shaft and pulley (10) of the pretensioner mechanism is likely inherent in that said shaft and pulley (likely) comprise two unique components. Nevertheless, for teaching such, attention was directed to Butenop et al for teaching a webbing retractor having *concentrically* arranged locking gear, retracting shaft, pretensioner mechanism, and sleeve, wherein said sleeve (of said pretensioner) is certainly, integrally provided at an axial center portion of the locking gear, wherein the adverb “integrally” can be interpreted as forming an essential component of a whole.

Additionally, as argued with respect to the locking gear of Grabinski et al, the locking gear of Butenop et al has similar form and function as that of Grabinski et al.

With respect to applicant's assertion that the individual references as combined would not function, applicant is arguing the devices of the references, in part, with respect to their intended uses and their overall embodiments. However, the disclosures of the references, specifically those aspects of the embodiments as reviewed above, are quite similar in terms of their components and interdependent operation.

Consequently, a case obviousness for one having ordinary skill in the art is substantial.

Neither the original claim language nor the amended claim language overcame the rejections based on the prior art of record of the previous office action.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ebner et al (5,788,176) and Rees et al (6,460,935) are cited to webbing retractors having pretensioner mechanisms coaxial with locking mechanisms, wherein the pretensioner mechanism of Ebner et al has a sleeve (22) coaxial of their lock gear, a force limiter having a torsion bar (30) and an inner mechanism of their lock gear having a knurled surface to accommodate their torsion bar whereas the pretensioner mechanism (16, having pulley 10) of Rees et al is coaxial of their lock gear (14) with which it forms a compact arrangement through mounting on a common sleeve (17) and said arrangement is complemented by a spring clutch (19, 18) and rack (21).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Krueer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen, can be reached on 571.272.6952. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Art Unit: 3654

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/

Examiner, Art Unit 3654

22 May 2009

/John Q. Nguyen/

Supervisory Patent Examiner, Art Unit 3654